

**COMPOSITION AND METHOD FOR TREATING THE OVER-PRODUCTION  
OF MUCIN IN DISEASES SUCH AS OTITIS MEDIA USING AN INHIBITOR  
OF MUC5AC**

Abstract of the Disclosure

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Disclosed herein is a method for the identification of a treatment for overproduction of mucin during otitis media (OM) and chronic obstructive pulmonary disease (COPD). The method uses a MUC5AC plasmid to identify novel cytoplasmic proteins of Nontypeable *Haemophilus influenzae*, a common mediator of OM and COPD, which up-regulate human *MUC5AC* mucin transcription via a positive p38 MAP kinase pathway and a negative PI 3-Kinase-Akt pathway. These proteins can be used to identify or design inhibitors of the p38 MAP kinase pathway and activators of the PI 3-kinase Akt pathway.